

TAGTCCTAAGTCCGGCGCCGGTTAAGCCGCTATTAGCGTGTGTGGACTCTCTC
TAGGAGCGGCTTCGCACAAATTACTGCTCAATCCTAGATACGTTGCGCTCTTT
GGTAAACGGCTCAGATCTTAGCACTCGTGCACTTCTACGATGGCAAGTCGTG
CCTCGTTCTCGTGTAGAATATCAGCTAATAGGGTCCGGCTCAACAGTGTATCCG
5 GTGGACAAGCACTGACACGCGATGACGTTTCGTCAAGAGTCGCATAATCTCAG
AATCCGTACAGCCGATCGGGTTACGGCTATAAAACAGCGTCATCAGCGTA
GGGTATCGTTTCGCGTGTATGACTTGGGCCACGTCTCTCTCTCGCACATTAG
GCTAGATTgtcgacccgggaattccggaaaaaaaaaaaaaaaaaaactgcagcgaccgttccctatagtgagt
cgattata.

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6. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized
bases refer to Tag gene sequence:

gcatgcaattaaccctcactaaaggagcggtacgtacgttaagcttggatcctctagaTTAGTCGTTAGCCCGAGC
TTAACTATTAGCGTCGGTGCTATATCCTTACCGCGTATGGAGTAGCCTTCCCG
15 AGCATTTGTCTACCTTACCGTCAAGAAAACCATCGACTCACGGGATATTGACC
AAACTGCGGTGCGATTAACTCGACTGCGCGTGAACAACGATGAGACCGGGC
TAAGGCACGTATCATATCCCTAATTTCGTGAATAGTGCCTACATATCCTAAT
ACAGGCGCGACGAACCTTATACTCGATGGAAGACAGTTATACCCATGCATAA
AGCTCTATACTCCGAGAAGTACATCTAAGCACTCGGCTCTAATGTTAAGTGC
20 TCGACCACAGATCGAAGGTCGGAATCCAGTGCCAAGTACGATGGCTCACGT
CTTATTTGGGCCGCCAGAGTTATGTTGAGTCTTCGATGTATGCGCTCGTTGC
CCTATTGTTGTGTCGGATCTTCTAGTTgtcgacccgggaattccggaaaaaaaaaaaaaaaaaa
tcgagcggtaccagcttccctatagtgagtcgattata.

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7. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized
bases refer to Tag gene sequence:

gcatgcaattaaccctcactaaaggagcggtacgtacgttaagcttggatcctctagaTGTGATAATTTGACGAGG
CGTTACATATTCTGAGAGGGGTGATTAAAGTCTGCTTCGGCCTGGGATGGTCTG
TCTACGTGTGCGTAGTTCTGTATAGCGTCGAGGATTCTGAACCTGTCCATAG
30 TATCCTGTAAGCGTCCAATGTACCTATATCGTGGACCCAAAGTCGATACGTCC
GATTAAGCGACGTTGGTCTAGGTAACGAATTATACCTTCGGGTTACGAATTAT

GGCTGTGCCTAACGAATCTGGGACGTGCCTAAGTAATCTGGTCCGCGACTAA
GATGTACGGTGATCGTGGACGCTTGACCGACTTATGCGTCGCCITCCGAGTT
ATTGGATGGCGTTCCGTCCTATTGGATACTATTCCGTGCGTGTGCGACACGTT
CCGAGCATATGCTAACAGITCCGTCACTATGTAAACGCTTGACGTAGATTGCTA
5 TCAGGTTACGATGACTGCTAAGCCATTACGCGACATTCTGCAAAGTTACGTCG
CATTCTCTCACGTTACGGCTGATTCTCTAGGCTTACGCGCATGAGCTCTAGGT
TCCGGGTACTATCGAACGTGTCATTGGTACTgtcgacccgggaattccggaaaaaaaaaaaaa
aaaaaactgcaggctaccagcttccctatagtgagtcgtafta.

- 10 8. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized
bases refer to Tag gene sequence:

gcatgcaattaacctcactaaaggacgcgtacgtaagcttggatcctctagaATAGACTAGCCTGCCGGTC
AATAACTGATGACGCGGAGTCAACCTGATAACCCATAGCGGAACAGTCTAAC
CTACGCGAGATACGTCCTTACCGCACATAGGTAACCTATTTCGTGACTAGCAGG
15 CCTTATTCGGTGCTATGAGTATCTTACCTGGTCTAGGTATCTAATTCGTGAG
TCGGGTACTACATTCGTGCGATGGGTCTCGCTTCGTCTATGAGGTCTCGTCT
TCGTGAGTGCAATGTATCCGAAGTCGTAGTGATAATATGGAAGTACGCGCGA
TTTGACGAACGTATGCCGCATATTCGGAACGTTCGCTGGAATTCGCCACCTA
GATCGAAATTATCGGAACCTCGTCGCTTATTACGAACCTTGGGAGCCGTTCT
20 AAAGCTGAGTCTGGTTTCTTATTAGCGAGGAGCATTTCGTGAATACTGAGCCG
AATATCGTAAGACATCCGCGAGCGACTGTAACTAATCGGGAACTTATTAT
AGAGCCGGTCCAGGTCTTGAACGACGTgtcgacccgggaattccggaaaaaaaaaaaaa
actgcaggctaccagcttccctatagtgagtcgtafta.

- 25 9. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized
bases refer to Tag gene sequence:

gcatgcaattaacctcactaaaggacgcgtacgtaagcttggatcctctagaCCATCCGATTAAATACCGT
GGATTACGTTAAGTTACGGCGGTTGACTTAGTTATGCGAGGTTTCGTTACGTT
GCATAGCGGATCGCTTAACCTCTATGCGTACAGCTTACCTACTATGCGTGCAA
30 GTTACCGAGCTGACGTCGCGTTAGACAGCTCATTTCGTACGTTTATGAGACTATG
TCGAAGCGTTTCGACCATGTCGTCTAGCTTAATACCTTCGCTCTCAGTTAAT

AGTACGGGCAATCCGTTATGTAAAGGGTGACCACGTTTCAGAAGCTGCCATA
TACTTACACAGCAGGCGATCACGTTAGATCCACTGCGTCACGTTACCTACATG
ATCGATCCGATTACAGGCCGATCCATCGGATTACACACGAGTCCTGCACGTT
AGAACACTGGCTCGCGGCTTAGATCAGCTTCCCTCGCTGGAGATCGAATACG
5 CCCAGCTWAGAGCGAATTGCGGCGCGTTTCGACATAATTGCCGACGCTTCGAC
AGAATTGTAGGCGATTCTAGCCAATTGCACGTCGTATTAGGTAGTCACTCTCG
ACCTAGCGTAAGGATCCACGATCCTAGAGTCGGGtcgacccgggaattccggaaaaaaaaa
aaaaaaaaaactgcagcggtaccagctttccctatagtgagtcgtatta.

- 10 10. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized bases refer to Tag gene sequence:

gcatgaattaaccctcactaaaggagcggtacgtacgttaagcttgatcctctagaACGCGGTCACCTCAGCATAT
AGTCGTTGCACCTAGTTGATAGTCGCCGATTCTAGTTATGGCGTCGGATTAGA
CCGGATCACCCGGACATGGACGTTAAGTATCCGGCCTGGACGACAATAATTC
15 GCGGTGCGCTCACAATATCCGAGAACTCTGCATCAATTCGGGCTAGTCGTAC
CTGAACGGGCATCAGTCGAATCTCTTCGTGGCTAGTCTGTGACGTCCGTGGTT
CATCGTGTCAACACGCGGTACATGAGTCAAAGTCCGAATAGCTCGCGCAACG
TCCGTCTAGCTGGATCAACCTATCCCTGAGTCTATATGCGTACCAATGGATGC
GGTCTCTCCGACTGAGTATGCGTTCCTCGGACTGGATCAGCTATCCACGAGC
20 TGTAATCCGGTACTAGGGTGTATCGCCTGTTACTAGGTTAGACAGTCGTGTAC
TCGGTTAGACTGATGGTCAACGACCTATACTGACAGCATACGAGACGTGACG
ACTGCATAGTGGTCGGTCTGACACATCTCTCGTTGGTAGTACGTGCCCGTA
TGGATAGGGCTCTAGCCCGCTATGGTGAGTCTAATCGCCGTTGGTCTGTATGC
AGTGCCGTATGGTTCCTCTCAGTCACGTATGGTTCGCTGCTGTCCGTCATGTG
25 TTAGATGCGtcgacccgggaattccggaaaaaaaaaaaaaaaaaactgcagcggtaccagctttccctatagtgag
tcgtatta.

11. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized bases refer to Tag gene sequence:

- 30 gcatgaattaaccctcactaaaggagcggtacgtacgttaagcttgatcctctagaATGCAGCGTAGGTATCGAC
TCTCACTGTGGAGTCGTCTATGATGTCGTGGAGTCCTCTCAGAGTGCTGTAGG

TCCTCATAGGTCGTGCTGTCTCTCTACACGCGTGCGTGAGTCTACATTCTGC
GAGTTGGTGCTCTCACTGCGGTGTCACTGATCTCTCCGCGTGACATGAGTC
TAGCTTCGCGGTCATGGTCTATCCAGCGATGGATGAGACTACTCTGTACTAG
ATGGTCATGCCTCGCAATGAGTCGTCAGTGCCACAATGTCTCGATAGTGCG
5 CCGAATGTGTCTGTAATGCCTCGAATGTGTAATCGTCAACTCGTATGTGAAGT
GCTAGGCTAGTATTGACATCTACGGGCGGCTATTGACGAACCTCTCCGTATAT
GCTCTACATCTGCAGGGAATTGCCGACCATATATGGGTCTTGCTGATACGCTA
GGGTGCTTGCTACTTAGATAGGCGTCTTGCGCGCTATTCGCGGCGTGCTCAG
AATATGCGCGACGTGTCTGGTATATGGCGACTGTGTCCGTCTATACGCATACT
10 GGTCCACATATAGACATACTTCCACGACATGACAAAGCGTGCTCCTACATAG
CACGAGCGTCTCCTAAATAGATCCGGTCTTATCGCTGAATGTCTAGGATTCTC
GTCAATGATCTACGATCCTCGCTAAGTATTAGCCACCTCGTATAGTATTGCG
GCACCTGAGGATTTATTCACCTGACTCGCGTATAATATGCCGTACCTAGTCT
Agtcgaccgcgggaattccggaataaaaaaaaaaaaaaaaaaactgcagcgtaccagcttccctatagtgcgtgtafta.

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12. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized bases refer to Tag gene sequence:

gcataaataaacctcactaaaggacgcgtacgtaagcttggalcctetagaGATATGCGTTACGTGAGTC
TGATAGCAGTTCACTACCTGGATATCTGATCCACTAGCTCGATCATGCTCACC
20 CATAGTTTATCTGCATCACTCGTACTGAAATGCTCACATCGCAGGTAGAGCAG
CATCGTAGAGCGTCAAGCTGCATCCTAGCGTCATGAGTCATAGTACCTCATGC
TCACGTGATCTACCCTAGCTGACCGCTAATGACGGCAGTGCAACCTGAGATA
CCGACGGCATACTGTCGTCAACGTCAAGGAATGTGTCCGAACGGCGAGCTAC
GTCGCCTCACGGAGTAATCGCGTCCCTCTAGGTATAGTGCCGTCGGTTCAGGT
25 CATATGTCGCGGGTTCTGCACATATCACGGACGTATCGTATCAGACGGACG
CTCTCGGACCTAAACCGTAGCTCTCGGCAAGATCGTCCTCGTCTCGAATATAG
CGCCCTAGTGCTGCAAAATGTACCGCTATCTCGTAAGGGGTCCGTCTGTTGAG
TTAGGCCTCCTCTCGTTGGATGTGAGCTCGGTTGCTTGATGGTGAGCTTAC
TTCGCGTACCTGCTGTTGTCATCAGTCTCTGCATCTATAATCGCGTATCTCTC
30 TCTAGTAGACCATATAGCCATCTAAGCGCTCGATATTCACCTAAGTGGCGCG
TATTGAACCTAAGTGGCAGCCGAATGGACTATCGCTCCTCGATATGTACGGAT

AGGCCACGGCATGTACGAGCATAAGCCGAAC TGACGAGCATACCCGACACT
GATCTGAGAGTCGCTTAAATCATCTGCGTGCTTAGAGCTTATGCCATGTCT
GTCAACTGTACTGTCATCTGTAACTGTAGCGTATGTGgtcgacccgggaattccgaaaa
aaaaaaaaaaaaaaactgcaggcgtaccagcttccctatagtgagtcgtatta.

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13. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized
bases refer to Tag gene sequence:

gc atgcaattaacctcactaaaggacgcgtacgtaagcttggatcctctagaGATAAGCGTTCACAGCTCG
GCAATACCTGTGACGAGCTGCTCGCAAGATTTACGCAGTGTGGCTATACTTG
10 ACAGTGATGGCGCTTACTTCAGATGTATGGGTGATACTTCGCTATATGGGTGG
TCACTTCTCTATGGCGCGTGACAATGTACTATGGAGCGGTCAATGTCAGTACG
GATCGCGTCGATCTAGGTGACTACGCACGCCTCTGGAGTAAATCGARWGCTC
CGTGCGAAATACGCGGTATCGTGCGAATAACCGAGTCATCGTGAGTAGTAT
GAACGTGTCTGTATTGACGCGGTATGTCGTGCTATAATGGCGTCTGTCGTGC
15 TCATAAGGTTCTCTGATGTGCTAGACGTGTCCATCGAGCTGCATAGCTATAC
TTCGAGTCACTTGGGATACTTCGATAGCGTTGTGAATAGTGTCTGAGGCTCTC
GGGCACGTTGYTAACTGTTGCCGCAATTCAAGATTAGTCCAGCTCGTACTA
TCGAATACACCATCGTCGTATCGAATAATCGCACCTCGTAGGAGTCAGTTGCC
ACTCGTTGATAGTCAACCAAGCTCGTTAGATAGTAGCCCAGATCCTACGAGA
20 TGAGCTACGTAAC TACAGTGATAGCATATAGGGTACGCTAGAATGCCAGGTC
GTAGTCGAATTAGTCAGGTTGGATGTCTACTAGTTGACTTGGAGTATGCCATG
AAGACTCGTCCCTCGATATCAATACTCGTCCGACGGTGAACACTGTAGTCGGT
GCTAGTGCCCACTTCTCGGTATGTGTCTCAATTATCGAGTAGGATTCTAATC
AATCGTCGCGGCTCACTAATYGTCTGCGGTGGCTACTAATGGTTACGGTGCC
25 GACTAATCGTGTAGGTGTCTAATACATCGTGATACGGGCGATATAATGCTCG
ATACGGCAAATATAGCTCCGTCCGGTgtcgacccgggaattccgaaaaaaaaaaaaaaaaaac
tgcaggcgtaccagcttccctatagtgagtcgtatta.

14. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized
30 bases refer to Tag gene
sequence:gc atgcaattaacctcactaaaggacgcgtacgtaagcttggatcctctctagaCAATGATAGGCTA

GTCTCGCGCAGTACATGGTAGTTCAGCCAATAGATGCCTAGTACGCTGACGG
CATTGAGAGTACGCTGATCGGCTTATGACGTATGTGACGCAGCTCTTAGCGCA
ATGTATGTGCTGTTATCGAAGCCTATGGCTGAGTATGTAAAGCTATGGCGTGC
TAGTCGTCTCATATACGTCTGATGACCTCGTATCATGTTATAGGGCTGCGAAC
5 TGTCGATGATGGTCACGACTCTGTCGATAGCTGTGTGACTCATTGAGAAGGTG
TGCAGCCTATATGATACGCAGTCGCATCCTATCTTACGTGTCAGTACTATGTG
TGAGTGCTCCGCCCTAGTGCTGATGTATGCCCCATAGTGCTCAGTGGAGTCTC
TCTTAGCATAGTGTCCGCTCATACATTAGATGGACGGCTCATTAGTATCATCG
TCGGCTGATATAGGTCGTGGCTCCCTGTATATCGAGGTGAGTCTATCTGGATC
10 AACGTCGCACTATGATGTGCAAAGTGTCGTCCATGTATAGACAGTGCGCGTA
TCATATAGGATGCGGCGATCTCATACAGCGTTACGGTCGTGCGTACTGTATA
AGGATGCTCTGTGAAGTGTATCGGTCCGATCAATTAGTCTAGTGTGCGTTAT
TCAGATCGAGTGAGTACATGATTCTGTCAGTGTGGATCAATTACAGTTAGGCC
GCTGACACATTAGTAACGTCGGCAAGCACTTAGTCGTGTCGTAAGCCAGTGT
15 GTCGTGTCTTAGACGACTGTGTGTGATTCTCGAGCGATTATACATCCGTGAC
AGCGTTTATAGTGTGCTGACAGACTGGTTGGTTATCCAATGATCGACCTGGAG
TCTAATATCTGACCACGCCTTGTAACTCGTATGACACGCGCTTGACACGACTGA
ATCCAGCTAAGAGCCCTGCAACGCGATATACAGGCGCTGCTACCGATATgtcg
accgggaattccggaaaaaactgcaggcgctaccagcttcctatagtgagtgatta.

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15. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized
bases refer to Tag gene

sequence:gcataaattaccctcactaaaggacgcgtacgtaagcttggatcctctagaAGATCGCAGGGTA
TCGCATCGACAGACCTGGTATCGTCGTGACGAACGTGCTACTCGCTTATCGGG
25 CCTGCTACATCAGTGGCGATGTTTCGTAACCCCTTAGCCGATCTTCTTACTTACG
AGGCTACTATTGATCAAACTCGCCTATCTGGTAATAACTGCGGTGATCTGGT
AGCCACTACGTGCGCCTGGTAGCAAATACGGCGAGCTGGTATCACTATCGGC
TCAGTGGTCCGACATAGTGCCAGTGGTTCGCATAACTGCCGCTGGGTCCAT
ATAACACGCAGTCGTCAATCATACGAGCCGATGGTACGAATAGCGCCTGTG
30 GTGACACTATGCCACCTCTGGTCTAATATAGCGCCCTGTGGTCGTATAATCGA
GCGCGTAATCGTATATYCGACTGTAGGTGCGTAACCTCGCGACTAGGTGGCTC

TAATCTGCGTTGGTTGTCGCTCACAGTGTCTGGTGTTCGATACCCGGATCGGG
TTCCGTAATCTTGGCATCGAGGTTTCGTACATGTCACGCGGTCTCGTTCATTCT
CGGTGGTGCTCAGTACATCCAGTGGTGAGTCGCTACATCACAGGTGATCCG
GCTAAACCTCTGGGCATCCGTATTAAGCGACATTCCTACGACTTATCAGCACG
5 TCCTACCGGTATAACAAGGCGTGCTACGGTCTAACGACGCTGGTAGCAGTCTA
TCAGATCGCTAGTAGCAGTTAGAGATGCTTAGTACGCCTTCGAATCTATGATG
CTCGTGCTCACGCGATGCACTCGGATTATGGCACATGCACTCGCGTAATGAC
GCTGCATCGCTCAGTATGATCCATGAGCGCCGTGAATGACGCATGAGCCTCG
TATCGAGTGCATGAGCTGTCTTTACATGATACATCGCTCTAAATCATCATGC
10 GACAGTCTCGACAGCAGCTCAGCATCTATGCATCATGTGCCTCACTAGGACA
TCATGCTCGACTCTGAGACACTGATCGAGCATTAAAGACGtcgaccgggaatccggaaaa
aaaaaaaaaaaaaaactcgagcgctaccagcttccctatagtgagtcgtatta.

16. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized
15 bases refer to Tag gene
sequence: gcatgcaattaacctcactaaagagacgctacgtaagcttggatcctctagaCTCTGTGTCATGAT
CGTGAGTTGTGCGAGTGTCTGTACCAATACTCTGGTGGAGCTATATAAGCCGC
TGTTGCGTAAATCAACGGCATGATCCCTATGACCGCGTCATGCTAACTGATAC
ACGCTGCTCGAACAGTGATACGCACACTGATAACTATGCGCAGACGCTTGAA
20 ACGATGTGACATCGCTTCTAGAGTATGAGCCGCAATGCACGACTGATACTCG
ATATGAGCAGCAGTCGGCTATGATTGCAATGCTTGCACTATGTATCCTGATC
GTGCGTGCGATGTCTGATAATACGCTCGCATGATATGTATTGCGCTCAGATGC
TGGAGATATGCCATGCGTGCTGTGAGTATGCCATGTATGCTGATATGTCGCGA
TCTATGTGGTGACTATGAGATCCATGTGATGACGTTGCACTCTCTGTGACCTT
25 ATCGAAGCGCATGTGAGCCTATAGACAGCGATGTGAGCACTCTCATCTGCGG
ATCAGTCTATCCTCGCTGATGCTCAGTGATACAGCTGATGCACGTAAGTGAAG
ATCCTGTGCTCGCATATACCGCTGCTGCACTGATATGAGCCAGTGCTGTGCTGT
CTCTACGGAGTGTGCTCGGCTATAACAGCGAGTGTACGCCTAAACTGGCTG
TCTAGCACTGTAGCTGGTGCATGTACTCGACTGCCGCTGCATCTACTATAAGA
30 CTCTGACATTAGCGTATAGGCTGATACATTAGCTCGGATGCTATCAGCTTGCG
CCTATTATATGCCTGACGCGGGATCTATCAGAAGCACTCGGTAGCTCATATAC

TGGATCACGGTGCCACAACATGCTACACGAGGTCTCAGACTCTATCCCGTGG
ACTCAACGTGCATCTGCTATGCTGAGCGCGTATCTGTGTACCTGTCCGATGCT
CTGATCTACACTGCCGTGATCGTTATATGACGAGACTGTGCGCTCATAGCCGA
CACTGTGCTCGATAAGACCACGCTGTGCGGATATAgtcgaccgggaattccgaaaaaaa

5 aaaaaaaaaaactcgagcgctaccagctttccctatagtgagtcgtatta.

17. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized
bases refer to Tag gene

sequence:gcatgcaattaaccctcactaaagggacgctacgtaagcttggatcctctagaCTAGTGCATCCTCG

10 TGGCATCATGCGTCTCCTCAGTAGGTCTGCGACTGATCCTAGTGCAATGCGTC
TGAGCCTGAGCTACAGCGATATAGCCTGGATTGTGAGCGTATTTGCTGTGAG
AACCTCAGCTCATCATGTATGATGCTGTACCATCCTGCGATACTGAAGATGCA
CCGCTATAATGCGAGGCTCTCCGCTAAAGTGGAAGCTGCTCGTTCTCAATGCG
AGCGAGTCGAATCCAATGCCGTAGCTGCGATAACGATGCCGTGACTCTACG
15 GTAATGCACGATCCTCTACATTGATAGCAGATAGTCTAACGGGATAGCATAG
GTGCAAGGCTCCTAGCATGTAGTCACAGGTGCTCAGATATAGTCATCGCTGC
AATCAGCTAGTCATCTTGTGTCAGGATGCTACTACTGCGTGCAGAAGATTGCA
CGACTTCAGAGGATGGCACTCGTCATTAGAGTGATGTTCTCGGATCGACACT
GCTGGTCTGCGAATGACTCGCATTCACTAACATGGAGCATCGTTATCTAAAG
20 GGGATGCACGTTATCGTCGAGTGCCCGTCACTGTCTATGCAGTGCCGGCCTATGT
CTCATTAGCGAGTCGTATGTATCATGTCGGGCTCGAATGTTGCACACGCTGCG
GTAATGGTGACCGCTAGTCCCASATGGTGCTTCGTAGCCACAAATGTCGTTAG
GTAGACCGACGTTATCGCGCTATACCCGATGTCAACGCGAGTTAGACCGTAT
CGTCCCCAGTGCCCTAAGATGGTCAAGCGTGCTCCTACGTTAGTATCAGTTTC
25 CCTATTGGTACGTCTGGCGTACTTCTGAAACGTGATGGGCGGCTGGTTACCCG
TATATGGGCTCGGTTGACCTCTATTGGGCGTTGTTGACCCGAATTTCGGTATCC
TCGTCGTTAAATGCGGAACGTCGTCTGCTATAGGCAAACGCTCTGTCGGTCATG
GCAAATGTTACTCGTGTGTGCAAGAAATTACTCGCTGTGtcgacccgggaattccggaa
aaaaaaaaaaaaaaaaactcgagcgctaccagctttccctatagtgagtcgtatta.

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18. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized bases refer to Tag gene sequence:

gcatgcaattaaccctcactaagggacgctacgtaagcttGATAAGCGTTCACAGCTCGGCAATAC
CTGTGACGAGCTGCTCGCAAGATTTACGCAGTGTGGCTATACTTGACAGTGAT
5 GGCGCTTACTTCAGATGTATGGGTGATACTTCGCTATATGGGTGGTCACTTCT
CTATGGCGCGTGACAATGTACTATGGAGCGGTCAATGTCAGTACGGATCGCG
TCGATCTAGGTGACTACGCACGCCCTCTGGAGTAAATCGAGTGCTCCGTGCGA
AATACGCGGTCATCTGCGAATAAÇCGAGTCATCGTGAGTAGTATGAACGTG
TCGTGTTATGCAGCGGTATGTCGTGCTATAATGGCGTCTGTCGTGCTCATAAG
10 GTTCCTCTGATGTGCTAGACGTGTCCATCGAGCTGCATAGCTATACTTCGAGT
CACTTGGGATACTTCGATAGCGTTGTGAATAGTGTGCTAGGCTCTCGGGCAGC
TTGTTAAACTGTTGCCGCCAATTCAAGATTAGTCCAGCTCGTACTATCGAATA
CACCATCGTCGTATCGAATAATCGCACCTCGTAGGAGTCAGTTGCCACTCGTT
GATAGTCAACCAAGCTCGTTAGATAGTAGCCAGATCCTACGAGATGAGCTA
15 CGTAACTACAGTGATAGCATATAGGGTACGCTAGAATGCCAGGTGCTAGTCG
AATTAGTCAGGTTGGATGTCTACTAGTTGACTTGGAGTATGCCATGAAGACTC
GTCCCTCGATATCAATACTCGTCCGCAGGTGAACACTGTAGTCGGTGCTAGTG
CCCACTTCTCGGTATGTGTCCTCAATTATCGAGTAGGATTCTAATCAATCGTC
GCGGCTCACTAATTGTCTGCGGTGGCTACTAATGGTTACGGTGCCTGACTAAT
20 CGTGTAGGTGTCTAATACATCGTGATACGGGCATATAATGCTCGATACGGC
AAATATAGCTCCGTCCGGTGGATCCAGATCGCAGGTATCGCATCGACAGAC
CTGGTATCGTCGTGACGAACGTGCTACTCGCTTATCGGGCCTGTACATCAGT
GGCGATGTTCTGAACCCCTAGCCGATCTTCTTACTTACGAGGCTACTATTCTGA
TCAAACCTCGCCTATCTGGTAATAACTGCGGTGATCTGGTAGCCACTACGTGCG
25 CCTGGTAGCAAATACGGCGAGCTGGTATCACTATCGGCTCAGTGGTCCGACA
TAGTGCCCACTGGTTCGCATAACTGCCGCTGGGTCCAATATAACACGCAGTC
GTCAATCATACGAGCCGATGGTCAGCAATAGCGCCTGTGGTGACACTATGCC
ACCTCTGGTCTAATATAGCGCCCTGTGGTCGTATAATCGAGCGCGTAATCGTA
TATCCGACTGTAGGTGCGTAACCTCGCGACTAGGTGGCTCTAATCTGCGTTGGT
30 TGTCGCTCACAGTGTCTGGTGTTTCGATACCCGGATCGGGTCCGTAATCTTGG
CATCGAGGTTTCGTACATGTCACGCGGTCTCGTTCATTCTCGGTGGTGCTCAG

TACATCCAGTGGTGAGTCGCTACATCACACGGTGATCCGGCTAAACCTCTGG
GCATCCGTATTAAGCGACATTCTACGACTTATCAGCACGTCCTACGGTATAA
CAAGGCGTGTACGGTCTAACGACGCTGGTAGCAGTCTATCAGATCGCTAGT
ACGAGTTAGAGATGCTTAGTACGCCTTCGAATCTATGATGCTCGTGCTCACGG
5 GATGCACTCGGATTATGGCACATGCACTCGCGTAATGACGCTGCATCGCTCA
GTATGATCCATGAGCGCCGTGAATGACGCATGAGCCTCGTATCGAGTGCATG
AGTGCTCTTTACATGATACATCGCTCTAAATCATATGCGACAGTCTCGACA
GCAGCTCAGCATCTATGCATCATGTGCCTCACTAGGACATCATGTCTGACTCT
GAGACACTGATCGAGCATTAAAGACtctagagcgccgccgactagttagctcgtagcccggaatt
10 ccggaaaaaaaaaaaaaaaaaactgcagcgctaccagcttccctatagttagtcgtatta.

19. A DNA molecule according to claim 1 comprising the sequence, wherein capitalized bases refer to Tag gene

sequence:gcatacaattaacctcactaaaggacgcgtacgtaagcttGATAAGCGTTCACAGCTCGGC
15 AATACCTGTGACGAGCTGCTCGCAAGATTTACGCAGTGTGGCTATACTTGAC
AGTGATGGCGCTTACTTCAGATGTATGGTGATACTTCGTATATGGGTGGTC
ACTTCTCTATGGCGCGTGACAATGTACTATGGAGCGGTCAATGTCAGTACGG
ATCGCGTCGATCTAGGTGACTACGCACGCCTCTGGAGTAAATCGAGTGCTCC
GTGCGAAATACGCGGTATCGTGCGAATAACCGAGTCATCGTGAGTAGTATG
20 AACGTGTCGTGTTATGCAGCGGTATGTCGTGCTATAATGGCGTCTGTCGTGCT
CATAAGGTTCTCTGATGTGCTAGACGTGTCCATCGAGCTGCATAGCTATACT
TCGAGTCACTTGGGATACTTCGATAGCGTTGTGAATAGTGTCGTAGGCTCTCG
GGCACGTTGTTAAACTGTTGCCGCCAAATCAAGATTAGTCCAGCTCGTACTAT
CGAATACACCATCGTCGTATCGAATAATCGCACCTCGTAGGAGTCAGTTGCC
25 ACTCGTTGATAGTCAACCAAGCTCGTTAGATAGTAGCCAGATCCTACGAGA
TGAGTACGTAACACTACAGTGATAGCATATAGGGTACGCTAGAATGCCAGGTC
GTAGTTCGAATTAGTCAGGTTGGATGTCTACTAGTTGACTTGAGATATGCCATG
AAGACTCGTCCCTCGATATCAATACTCGTCCGCAGGTGAACACTGTAGTCGGT
GCTAGTGCCCACTTCTCGGTATGTGTCTCAATTATCGAGTAGGATTCTAATC
30 AATCGTCGCGGCTCACTAATGTCTGCGGTGGCTACTAATGGTTACGGTGCCT
GACTAATCGTGTAGGTGTCTAATACATCGTGATACGGGCGATATAATGCTCG

ATACGGCAAATATAGCTCCGTCCGGTGGATCCAGATCGCAGGGTATCGCATC
GACAGACCTGGTATCGTCGTGACGAACGTGCTACTCGTTATCGGGCCTGCTA
CATCAGTGGCGATGTTCTGTAACCCTTAGCCGATCTTCTTACTTACGAGGCTAC
TATTCGATCAAACCTCGCCTATCTGGTAATAACTGCGGTGATCTGGTAGCCACT
5 ACGTGGCGCCTGGTAGCAAATACGGCGAGCTGGTATCACTATCGGCTCAGTGG
TCCGACATAGTGCCAGTGGTTCGCATAACTGCCGCTGGGTCCAATATAACA
CGCAGTCGTCAATCATACGAGCCGATGGTCAGCAATAGCGCCTGTGGTGACA
CTATGCCACCTCTGGTCTAATATAGCGCCCTGTGGTCGTATAATCGAGCGCGT
AATCGTATATCCGACTGTAGGTGCGTAACTCGCGACTAGGTGGCTCTAATCTG
10 CGTTGGTTGTGCTCACAGTGTCTGGTGTTCGATACCCGGATCGGGTTCCGTA
ATCTTGGCATCGAGGTTTCGTACATGTCACGCGGTCTCGTTCATTCTCGGTGG
TGCTCAGTACATCCAGTGGTGAGTCGCTACATCACACGGTGATCCGGCTAA
CCTCTGGGCATCCGTATTAAGCGACATTCTACGACTTATCAGCACGTCCTAC
GGTATAACAAGGCGTGCTACGGTCTAACGACGCTGGTAGCAGTCTATCAGAT
15 CGCTAGTACGAGTTAGAGATGCTTAGTACGCCCTTCGAATCTATGATGCTCGTG
CTCACGCGATGCACTCGGATTATGGCAGATGCACTCGCGTAATGACGCTGCA
TCGCTCAGTATGATCCATGAGCGCCGTGAATGACGCATGAGCCTCGTATCGA
GTGCATGAGCTGTCTTTCACATGATACATCGCTCTAAATCATCATGCGACAGT
CTCGACAGCAGCTCAGCATCTATGCATCATGTGCCTCACTAGGACATCATGCT
20 CGACTCTGAGACACTGATCGAGCATTAAGACTCTAGACTCTGTGCCATGATC
GTGAGTTGTGCGAGTGTCTGTACCAATACTCTGGTGGAGCTATATAAGCCGCT
GTTGCGTAAATCAACGGCATGATCCCTATGACCGCGTCATGCTAACTGATAC
ACGCTGCTCGAACAGTGATACGCACACTGATAACTATGCGCAGACGCTTGAA
ACGATGTGACATCGCTTCTAGAGTATGAGCCGCAATGCACGACTGATACTCG
25 ATATGAGCAGCAGTCGGCTATGATTGCAATGCTTGCAGTATGTATCCTGATC
GTGCGTGCGATGTCTGATAATACGCTCGCATGATATGTATTGCGCTCAGATGC
TGGAGATATGCCATGCGTGCTGTCAGTATGCCATGTATGTGATATGTGCGGA
TCTATGTGGTGACTATGAGATCCATGTGATGACGTTGCAGTCTCTGTGACCTT
ATCGACGCGCATGTGAGCCTATAGACAGCGATGTGAGCACTCTCATCTGCGG
30 ATCAGTCTATCCTCGCTGATGCTCAGTGATAACGCTGATGCACGTAGTGAGC
ATCCTGTGCTCGCATATACCGCTGCTGCACTGATATGAGCCAGTGCTGCTGCT

CTCTACGGAGTGTGCTCGGCTATAACAGCGAGTGCTACGCCTAAACTGGCTG
TCTAGCACTGTAGCTGGTGCATGTACTCGACTGCCGCTGCATCTACTATAAGA
CTCTGACATTAGCGTATAGGCTGATACATTAGCTCGGATGCTATCAGCTTGCG
CCTATTATATGCCTGACGCGGGATCTATCAGAACGACTCGGTAGCTCATATAC
5 TGGATCACGGTGCCACAACATGCTACACGAGGTCTCAGACTCTATCCCGTGG
ACTCAACGTGCATCTGCTATGCTGAGCGCGTATCTGTGTACCTGTCCGATGCT
CTGATCTACACTGCCGTGATCGTTATATGACGAGACTGTGCGCTCATAGCCGA
CACTGTGCTCGATAAGACCACGCTGTGCGGATATAGTCGACCTAGTGCATCCT
CGTGGCATCATGCGTCTCCTCAGTAGGTCTGCGACTGATCCTAGTGCAATGCG
10 TCTGAGCCTGAGCTACAGCGATATAGCCTGGATTGTGAGCGTATTTGCTGTCA
GAACCTCAGCTCATCATGTATGATGCTGTACCATCCTGCGATACTGAAGATGC
ACCGCTATAATGCGAGGCTCTCCGCTAAAGTGGAAGTGCTCGTTCTCAATGC
GAGCGAGTCGAATCCAATGCCGTAGCTGCGATAACGATGCCGCTGACTCTAC
GGTAATGCACGATCCTCTACATTGATAGCAGATAGTCTAACGGGATAGCATA
15 GGTGCAAGGCTCCTAGCATGTAGTCACAGGTGCTCAGATATAGTCATCGCTG
CAATCAGCTAGTCATCTTGTGAGGATGCTACTCACTGCGTGCGAAGATTGCG
ACGACTTCAGAGGATGGCACTCGTCATTAGAGTGATGTTCTCGGATCGACAC
TGCTGGTCTGCGAATGACTCGCATTCACTAACATGGAGCATCGTTATCTAAAG
GGGATGCACGTTATCGTCGAGTGGCCGTATGTCTATGCAGTGCGGCCTATGT
20 CTCATTAGCGAGTCGTATGTATCATGTCCGGCTCGAATGTTGCACACGTCTGC
GTAATGGTGACCGCTAGTCCACATGGTGCTTCGTAGCCACAAAATGTCGTTAG
GTAGACCGACGTTATCGCGCTATACCCGATGTCAACGCGAGTTAGACCGTAT
CGTCCCCAGTGCCCTAAGATGGTCAAGCGTGCTCCTACGTTAGTATCAGTTTC
CCTATTGGTACGTTGCGGTACTTCTGAAACGTGATGGGCGGCTGGTTACCCG
25 TATATGGGCTCGGTTGACCTCTATTGGGCGTTGTTGACCCgaattccggaaaaaaaaaa
aaaaaaaaactgcagcgctaccagcttcctatagtgaagtgatta.

20. A DNA molecule according to claim 1 further comprising at least two additional restriction sites.

21. A DNA molecule according to claim 20 comprising the sequence wherein capitalized bases refer to Tag gene sequence

gcatacaattaaccctactaaagggacgcgtacgtaagcttGATAAGCGTTCACAGCTCGGCAATAC
CTGTGACGAGCTGCTCGCAAGATTTACGCAGTGTGGCTATACTTGACAGTGTAT
5 GGCCTTACTTCAGATGTATGGGTGATACTTCGCTATATGGGTGGTCACTTCT
CTATGGCGCGTGACAATGTACTATGGAGCGGTCAATGTCAGTACGGATCGCG
TCGATCTAGGTGACTACGCACGCCTCTGGAGTAAATCGAGTGCTCCGTGCGA
AATACGCGGTTCATCGTGCGAATAACCGAGTCAATCGTGAGTAGTATGAACGTG
TCGTGTTATGCAGCGGTATGTCTGTGCTATAATGGCGTCTGTCGTGCTCATAAG
10 GTTCCTCTGATGTGCTAGACGTGTCCATCGAGCTGCATAGCTATACTTTCGAGT
CACTTGGGATACTTCGATAGCGTTGTGAATAGTGTCTAGGCTCTCGGGCACG
TTGTTAAACTGTTGCCGCCAATTCAAGATTAGTCCAGCTCGTACTATCGAATA
CACCATCGTCGTATCGAATAATCGCACCTCGTAGGAGTCAGTTGCCACTCGTT
GATAGTCAACCAAGCTCGTTAGATAGTAGCCAGATCCTACGAGATGAGCTA
15 CGTAACTACAGTGATAGCATATAGGGTACGCTAGAATGCCAGGTCGTAGTCG
AATTAGTCAGGTTGGATGICTACTAGTTGACTTGGAGTATGCCATGAAGACTC
GTCCCTCGATATCAATACTCGTCCGCAGGTGAACACTGTAGTCGGTGCTAGTG
CCCACITCTCGGTATGTGTCTCAATTATCGAGTAGGATCTAATCAATCGTC
GCGGCTCACTAATGTGTCTGCGGTGGCTACTAATGGTTACGGTGCCTGACTAAT
20 CGTGTAGGTGTCTAATACATCGTGATACGGGCGATATAATGCTCGATACGGC
AAATATAGCTCCGTCCGGTGGATCCAGATCGCAGGGTATCGCATCGACAGAC
CTGGTATCGTCGTGACGAACGTGCTACTCGTTATCGGGCCTGCTACATCAGT
GGCGATGTTCTGAACCTTAGCCGATCTTCTTACTACGAGGCTACTATTCTGA
TCAAACCTCGCCTATCTGGTAATAACTGCGGTGATCTGGTAGCCACTACGTGCG
25 CCTGGTAGCAAATACGGCGAGCTGGTATCACTATCGGCTCAGTGGTCCGACA
TAGTGCCAGTGGTTCGCATAACTGCCGCTGGGTCCAATATAACACGCAGTC
GTCAATCATACGAGCCGATGGTCAGCAATAGCGCCTGTGGTGACACTATGCC
ACCTCTGGTCTAATATAGCGCCCTGTGGTCGTATAATCGAGCGCGTAATCGTA
TATCCGACTGTAGGTGCGTAACTCGCGACTAGGTGGCTCTAATCTGCGTGTGGT
30 TGTGCTCACAGTGTCTGGTGTTTCGATACCCGGATCGGGTCCGTAATCTTGG
CATCGAGGTTTCGTACATGTCACGCGGTCTCGTTCATTCTCGGTGGTGCTCAG

TACATCCAGTGGTGAGTCGCTACATCACACGGTGATCCGGCTAAACCTCTGG
GCATCCGTATTAAGCGACATTCTACGACTTATCAGCACGTCCTACGGTATAA
CAAGGCGTGCTACGGTCTAACGACGCTGGTAGCAGTCTATCAGATCGTAGT
ACGAGTTAGAGATGCTTAGTACGCCTTCGAATCTATGATGCTCGTGCTCACGC
5 GATGCACTCGGATTATGGCACATGCACTCGCGTAATGACGCTGCATCGTCA
GTATGATCCATGAGCGCGTGAATGACGCATGAGCCTCGTATCGAGTGCATG
AGCTGTCTTTCATATGATACATCGCTCTAAATCATCATGCGACAGTCTCGACA
GCAGCTCAGCATCTATGCATCATGTGCCTCACTAGGACATCATGCTCGACTCT
GAGACACTGATCGAGCATTAAAGACTCTAGACTCTGTGCCATGATCGTGAGTT
10 GTCGCAGTGTCTGTACCAATACTCTGGTGGAGCTATATAAGCCGCTGTTGCGT
AAATCAACGCGATGATCCCTATGACCGCGTCATGCTAACTGATACACGCTGC
TCGAACAGTGATACGCGACACTGATAACTATGCGCAGACGCTTGAAACGATGT
GACATCGCTTCTAGAGTATGAGCCGCAATGCACGACTGATACTCGATATGAG
CAGCAGTCGGCTATGATTGCAATGCTTGCACTATGTATCCTGATCGTGCGTG
15 CGATGTCTGATAAATCGCTCGCATGATATGTATTGCGCTCAGATGCTGGAGAT
ATGCCATGCGTGCTGTCAGTATGCCATGTATGCTGATATGTCCGATCTATGT
GGTGAATATGAGATCCATGTGATGACGTTGCACTCTCTGTGACCTTATCGACG
CGCATGTGAGCCTATAGACAGCGATGTGAGCACTCTCATCTGCGGATCAGTC
TATCCTCGCTGATGCTCAGTGATACACGCTGATGCACGTAGTGAGCATCCGTG
20 GCTCGCATATACCGCTGCTGCACTGATATGAGCCAGTGCTGTCTGCTCTCTACG
GAGTGTGCTCGGCTATAACAGCGAGTGCTACGCCTAAACTGGCTGTCTAGAA
CTGTAGCTGGTGATGTACTCGACTGCCGCTGCATCTACTATAAGACTCTGAC
ATTAGCGTATAGGCTGATACATTAGCTCGGATGCTATCAGCTTGCGCCTATTA
TATGCCTGACGCGGGATCTATCAGAACGACTCGGTAGCTCATATACTGGATC
25 ACGGTGCCACAACATGCTACACGAGGTCTCAGACTCTATCCCGTGGACTCAA
CGTGATCTGCTATGCTGAGCGCGTATCTGTGTACCTGTCCGATGCTCTGATC
TAACTGCCGTGATCGTTATATGACGAGACTGTGCGCTCATAGCCGACACTGT
GCTCGATAAGACCACGCTGTGCGGATATAGTCGACCTAGTGCATCCTCGTGG
CATCATGCGTCTCCTCAGTAGGTCTGCGACTGATCCTAGTGAATGCGTCTGA
30 GCCTGAGCTACAGCGATATAGCCTGGATTGTGAGCGTATTTGCTGTGAGAAC
CTCAGCTCATCATGTATGATGCTGTACCATCCTGCGATACTGAAGATGCACCG

CTATAATGCGAGGCTCTCCGCTAAAGTGGAAGCTGCTCGTTCCTCAATGCGAG
CGAGTCGAATTCATGCCGTAGCTGCGATAACGATGCCGCTGACTCTACGGT
AATGCACGATCCTCTACATTGATAGCAGATAGTCTAACGGGATAGCATAGGT
GCAAGGCTCCTAGCATGTAGTCACAGGTGCTCAGATATAGTCATCGCTGCAA
5 TCAGCTAGTCATCTTGTCAGGATGCTACTACTGCGTGCAGAAGATTGCGACG
ACTTCAGAGGATGGCACTCGTCATTAGAGTGATGTTCTCGGATCGACACTGCT
GGTCTGCGAATGACTCGCATTCTACTAACATGGAGCATCGTTATCTAAAGGGG
ATGCACGTTATCGTCGAGTGGCCGTCATGTCTATGCAGTGCGGCCTATGTCTC
ATTAGCGAGTCGTATGTATCATGTGCGGCTCGAATGTTGCACACGCTGCGTA
10 ATGGTGACCGCTAGTCCCATGGTGCTTCGTAGCCACAAATGTCGTTAGGTA
GACCGACGTTATCGCGCTATACCCGATGTCAACGCGAGTTAGACCGTATCGT
CCCCAGTGCCCTAAGATGGTCAAGCGTGCTCCTACGTTAGTATCAGTTTCCCT
ATTGGTACGTCCTGGCGTACTTCTGAAACGTGATGGGCGGCTGGTTACCCGTAT
ATGGGCTCGGTTGACCTCTATTGGGCGTTGTTGACCCgaattcggaaaaaaaaaaaaa
15 aaaaactcgagcgtaccagcttcctctatgtgagtcgtatta.

22. A method of providing a control for an assay, said assay comprising providing
labeled nucleic acid and hybridizing said labeled nucleic acid to a nucleic acid array, said
method comprising spiking said labeled nucleic acid with labeled Tag gene nucleic acid,
20 wherein said nucleic acid array has probes complementary to said Tag gene.

23. A method according to claim 22 wherein said nucleic acid is RNA.

24. A method according to claim 22 wherein said nucleic acid is DNA.

25

25. A method according to claim 22 wherein said Tag gene is selected from the group
consisting of Tags A, B, C, D, E, F, G, H, I, J, N, O, Q, Tag IN, Tag IQ and Tag IQ.EX

26. A method of analyzing the expression of one or more genes, said method
comprising:
30

(a) providing a pool of target nucleic acids comprising RNA transcripts of one

or more of said genes, or nucleic acids derived therefrom using said RNA transcripts as templates;

(b) providing a spike sample comprising RNA transcribed from a Tag gene or Tag nucleic acids derived from said Tag gene RNA using said Tag gene RNA as template;

- 5 (c) hybridizing said pool of target nucleic acids and said spike sample to an array of oligonucleotide probes immobilized on a surface, said array comprising more than 100 different oligonucleotides, at least some of which comprise control probes and at least some of which comprise probes complementary to said Tag gene or said nucleic acid derived from said Tag gene RNA, wherein each
- 10 different oligonucleotide is localized in a predetermined region of said surface, the density of said different oligonucleotides is greater than about 60 different oligonucleotides per 1 cm^2 , and at least some of said oligonucleotide probes are complementary to said RNA transcripts or said nucleic acids derived therefrom using said RNA transcripts;
- 15 (d) quantifying the hybridization of said nucleic acids to said array, wherein said quantification is proportional to the expression level of said genes; and
- (e) quantifying the hybridization of said spike sample to said array.

27. A method according to claim 26 wherein said Tag gene is selected from the group
- 20 consisting of Tags A, B, C, D, E, F, G, H, I, J, N, O, Q, Tag IN, Tag IQ and Tag IQ.EX

28. A DNA molecule comprising a Tag gene, said Tag gene comprising at least 5 Tag sequences or their complement.

- 25 29. A DNA molecule according to claim 28 wherein said Tag sequences are selected from Seq. Id. Nos. 1-2050.

- 30 30. A DNA molecule according to claim 29 wherein said Tag gene sequences are selected from the group consisting of Tags A, B, C, D, E, F, G, H, I, J, N, O, Q, Tag IN, Tag IQ and Tag IQ.EX